GOLDEN NEMATODE

PROGRAM PROFILE

Goal	To maintain a risk-based management system to prevent the spread of golden nematode and new infestations in potatoes, and to facilitate international and interstate agricultural shipments.
Enabling Legislation	7 USC 150 (Golden Nematode Act of 1948).
Economic Significance	Production of potatoes, tomatoes, and eggplants is estimated at $80 million annually in NYS and $5.7 billion nationally. The inclusion of other soil-bearing commodities that could come under regulation, such as nursery and ornamentals, would increase this figure at least threefold.
Principal Approach And Methods Used to Achieve Goals	Regulatory activities to prevent golden nematode spread to non-infested areas and non-chemical control activities. Program methods include the systematic use of resistant varieties of potatoes to reduce golden nematode populations to below detectable levels. Federal and State regulations reduce possibility of spread. The State of New York requires growers to plant resistant varieties on land treated since 1972. New York now requires the use of resistant varieties on exposed land as well.
History	Discovered on Long Island in 1941. Program began in 1946. Found in Steuben (1967), Wayne (1974), and Orleans (1976) counties in upstate New York, and New Castle county (1969), Delaware. Regulated area was under State quarantine prior to establishment of Federal quarantine. Federal quarantine was invoked in 1969, in New York and Delaware. Delaware was removed from quarantine in 1970.
State and Local Cooperation	The New York Department of Agriculture and Markets shares the regulatory responsibility for the program with APHIS. Cornell University and the New York Certified Seed Potato Improvement Cooperative provide research

assistance to accelerate the development of new resistant potato varieties.

Involvement of Other Agencies

Agricultural Research Service, the Extension Service, and the Cooperative State Research Service provide assistance.

RESOURCE DATA

----------Obligations----------

	Direct	Reimbursement	User Fees	Staff-Years
FY 1996	$418,550	--	--	5
FY 1997	$438,961	--	--	7
FY 1998	$441,225	--	--	7
FY 1999 (est.)	$435,000	--	--	7
FY 2000 (est.)	$580,000	--	--	8

	APHIS	Coop	Total	CCC	Contingency Fund
Cum.	$32,490,697	$15,466,000	$47,956,607		$1,552,860

RECENT ACCOMPLISHMENTS

Trade Facilitation

In FY 1998, the program enabled the export and interstate shipment of a wide variety of agricultural products, without restriction from any GN-related phytosanitary concerns. As of December 3, 1998, APHIS' 1998 survey had collected 7,398 soil samples from 3,096 acres in Cayuga, Livingston, Seneca, Steuben, Suffolk and Wayne counties of New York State (NYS). There have been 4 new detections of GN in potato fields, all within the quarantined area, and no areas outside of NYS are infested. As a result, 2,049 samples from 813 acres have been processed and examined. All viable GN cysts from processed soil samples will be tested by an ARS nematologist at

Cornell University to determine if the newly discovered RO2 strain of GN is present. This strain can infect and reproduce on potato varieties that are resistant to the RO1 strain that has caused all previous infestations in NYS.

GN-Resistant Varieties

APHIS supported the development of GN-resistant potato varieties at Cornell University through a cooperative agreement. This control method has been highly effective in reducing GN populations in infested fields. Several decades of breeding these varieties have resulted in increased their quality and quantity. As a result, growers have greater latitude in complying with the crop rotation scheme used to control GN. APHIS and NYS continue to encourage potato growers to use GN-resistant varieties and this method is becoming increasingly popular among growers. In fact, 26 percent of crop acreage in FY 1998 was planted to resistant varieties, up from 16 percent in FY 1997. Through the planting of GN-resistant varieties and other activities, this program protects several crops in NYS, particularly potato, tomato, and eggplant.

GN Review Panel

In FY 1998, APHIS worked to address recommendations from a 1997 GN review panel representing APHIS, the National Plant Board, the potato growers' industry, and the Agricultural Research Service (ARS). For example, the panel recommended that the program attempt to develop other effective control methodologies. In this regard, APHIS continued a vigorous program of pressure washing used farm equipment to prevent intrastate movement of GN; 170 pieces of farm equipment were treated in 1998. Also, APHIS and ARS are actively pursuing field deployment of a steam heat treatment to replace methyl bromide fumigation in treating GN-contaminated farm equipment to prevent GN spread. This treatment will be program ready by January 2000. In addition, the panel recommended that the national GN detection surveys be completed. APHIS feels that these surveys will continue to be one of the objectives of crop pest surveys conducted by other States. Also, the panel recommended that the program continue to intensely manage GN in NYS. NYS requires and enforces the

planting of GN-resistant potato varieties, but only on infested regulated land and not on exposed land. However, APHIS continues to survey exposed land to detect the onset of new GN infestation and recommend regulation of that land by NYS.